

Virginia's Coastal Resources Management Program links state, local, and federal efforts to enhance Virginia's coastal resources. Virginia's coastal zone includes the 29 counties and 15 cities of Tidewater Virginia, and all tidal waters out to the three mile territorial sea boundary. The program includes state laws and policies to protect and manage Virginia's coastal resources, implemented by the Departments of Environmental Quality, Conservation and Recreation, Game and Inland Fisheries, and Health, and the Marine Resources Commission. The Department of Environmental Quality serves as lead agency for the program.



## Oysters Take To the Road

### *Can oysters get altitude sickness?*

This was one of the many questions curious people from the mountains of Lexington asked as they peered into the aquariums of the Virginia Oyster Heritage Program (VOHP) display. The display included a 35 gallon "biodiversity tank," complete with live oysters and other marine life hiding amongst their shells, as well as two "filtering demo tanks," demonstrating the ability of oysters to filter algae out of the water. Coastal staff have traveled with the display throughout the state this year educating Virginians about the importance of the oyster to water quality, biodiversity and our coastal economy. Observers are amazed by the ability of a few oysters to filter and clean green, algae rich water in about an hour's time.

Our trip with the VOHP display to Lexington for the Environment Virginia 2000 Conference did indeed carry the message that the mountains can have an effect on oysters. The quality of the water flowing from our mountains, through the Chesapeake Bay and the Atlantic watersheds, and into Virginia's coastal waters affects any efforts to restore biodiversity, water quality and productivity in these waters.

This spring and summer, the Virginia Oyster Heritage Program really got off the ground, the floor of the Rappahannock River bed and the seaside of the Eastern Shore to be exact! With the assistance of Virginia watermen, the Virginia Marine Resources Commission set down shell for the first six reefs to be built in the Rappahannock River. Each reef is a one-acre, three-dimensional structure (think of a mound of shell), surrounded by up to 25 acres of two-dimensional enhanced harvest area (a flat bed, which is more easily harvested.)



On the seaside of Virginia's Eastern Shore, shell is going in and reefs are going up in South Bay, Wachapreague and Metomkin Bay. Shell for the seaside reefs is being harvested from a fossil shell bed on the seaside and transferred to the new reefs. The seaside reefs are built to mimic intertidal coastal bay reefs, which are naturally smaller structures than the subtidal reefs of the open waters of the Rappahannock. This difference in size however, has not diminished the big successes in oyster recolonization that has been documented on seaside reefs built in the last two years!

Young oysters, as a result of natural reproduction, are expected to colonize the new sanctuary reefs, both on the seaside and in the Rappahannock. That is to say, spat generated by surviving oyster populations in nearby two-dimensional beds should settle on the new reefs. Several of the reefs in the Rappahannock will also be seeded with the assistance of the Chesapeake Bay Foundation and private oyster gardeners. "In most years oyster spatfall occurs in

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## Message from the Director



**Dennis Treacy and Ron Hamm, Deputy Secretary of Natural Resources, greet visitors to the VOHP display at the 1999 Virginia State Fair. Photo courtesy of Virginia Department of Environmental Quality.**

It was a fantastic spring, summer and fall for our Oyster Heritage Program. Thanks to the hard work of our partners and staff we have built more than six reefs in the Rappahannock River and on the seaside of Virginia's Eastern Shore. And, as our cover story explains, we have educated thousands of Virginians about the critical role oysters play in keeping our water clean and providing habitat for other marine life. Through our bumper stickers, video, brochures, t-shirts and displays at fairs, festivals and conferences, the word is getting around.

But we have a long way to go. It took centuries for the oyster to get into such a desperate situation. It will take time to restore them. We hope you will help us spread the word and join this effort to bring our coastal ecosystems back to life. There is much you can do —whether it is oyster gardening, buying a T-shirt, preventing pollution, or donating to the Oyster Reef Heritage Foundation (see box on page 2 for details). Whatever you can do, it will be greatly appreciated by us at DEQ's Coastal Program and even more importantly, by future generations. 🐚

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## Oysters Take to the Road

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July through September. During our fall survey of the Rappahannock reefs, we will be anxious to see if the natural settlement of oysters on these reefs is as successful as it was on the reefs built on the seaside," explains Jim Wesson, Head of VMRC's Conservation and Replenishment Division and long-time oyster reef restoration advocate.

Sanctuary reef and harvest area restoration is an expensive task. The empty shell needed to build a one-acre sanctuary reef in the Rappahan-




*Shell being off-loaded from a barge at a Rappahannock River reef restoration site. Note the tops of the 8 ft or higher three-dimensional reefs exposed at low tide. Photo courtesy of Virginia Marine Resources Commission.*

nock can cost up to \$100,000 dollars. So far, DEQ and VMRC have marshaled over \$3 million in funds from federal, state and private sources, including \$1.2 million from the Coastal Program and a \$900,000 grant from the Army Corps of Engineers to support the VOHP.

To help raise the funds needed for the oyster restoration effort, a foundation has been set-up to receive private donations. To date, the Virginia Oyster Reef Heritage Foundation has raised nearly \$200,000 dollars. Contributions to the Foundation will also serve as match for a \$140,000 grant made to the VOHP by the Virginia Environmental Endowment.

To help generate private funds, a Virginia Oyster Heritage Program T-shirt, made from 100% organic cotton, is now for sale. The shirt sells for \$15, with profits going to the Foundation. A bumper sticker, featured on the front cover, will be included at no charge. In addition to designing and selling the T-shirt, Coastal Staff held a raffle at VOHP displays at Potomac Mills in Northern Virginia and the 2000 Virginia State Fair this past September and October. The 1st prize package in the raffle - a trip to Virginia Beach for a family of four - was organized by Potomac Mills, who also donated the raffle's 3rd prize - a \$100 mall gift certificate. The Coastal Conservation Association donated 2nd prize - a West Marine kayak. The mall also made a \$5,000 contribution to the Foundation as thanks for holding a VOHP exhibit at the mall in conjunction with the mall's month-long anniversary celebrations. A short video about the VOHP, produced by the Department of Game and Inland Fisheries and Coastal staff, premiered at Potomac Mills and the State Fair, and will be included in a fundraising package to be distributed by the Foundation.

The Virginia Oyster Reef Heritage Foundation sponsored a black tie fundraising gala at the Tides Inn on November 11, and future events are being considered. If you would like to be on the mailing list to receive information about future fundraising events, please call 698-4185. 

### Would you like to assist with the reef restoration effort?

Please consider a tax-deductible contribution to the Virginia Oyster Reef Heritage Foundation.

Mail your check payable to:

Virginia Oyster Reef Heritage Foundation, Inc.  
610 Moorefield Park Drive  
Richmond, VA 23236-2655

VORHF Corporate ID: 54-1954062

Thanks to Mays and Valentine for their assistance in setting up the Foundation, George Sawyer for serving as Chairman, Clifford Schroeder as Vice-Chairman and Charles Hicks as Treasurer.



### ***Help the Foundation Meet Its Challenge Grant from the Virginia Environmental Endowment!***

VOHP T-shirts are available in green or blue (S, M, L, XL, XXL,) for \$15. Quite a bargain for 100% organic cotton! To order, please call Susan Watson at (804) 698-4185.

# Chesapeake Bay Dune Systems: Moving Targets for Managers

Virginia's coastal sand dune systems are a unique and valuable natural resource. Dune systems protect inland areas from flooding and erosion caused by coastal storms. They can protect life and property. Dune systems also help replenish sand to beaches, provide habitat for unique coastal flora and fauna, and contribute to the overall scenic and recreational attractiveness of Virginia's coastal environment. Activities that do not take the dynamic nature of coastal sand dunes into account (see sidebar: What is a Sand Dune?), can compromise the special values of a dune, leading to increases in shoreline erosion, coastal flooding, and expenditure of public funds for disaster assistance and beach replenishment.

Natural dunes vary in size and structure but all require that sufficient sand accretes (increases) at least long enough to allow hardy dune tolerant vegetation to take root and grow above the intertidal zone. (See diagram below) Dune vegetation is characterized by its ability to withstand extremes in temperature, moisture and salinity. Sandy substrate, certain types of vegetation and a characteristic profile are required for a shoreline feature to qualify as a "jurisdictional coastal primary dune." Dunes landward of the jurisdictional dune are called "secondary dunes". Depending upon local geology, these dunes can be larger than the primary dune. Recognizing the dynamic nature of the sand dune system, the Coastal Primary Sand Dune Protection Act was adopted to regulate both the primary dune as well as the beach zone, the area between the toe of the primary dune and mean high water.

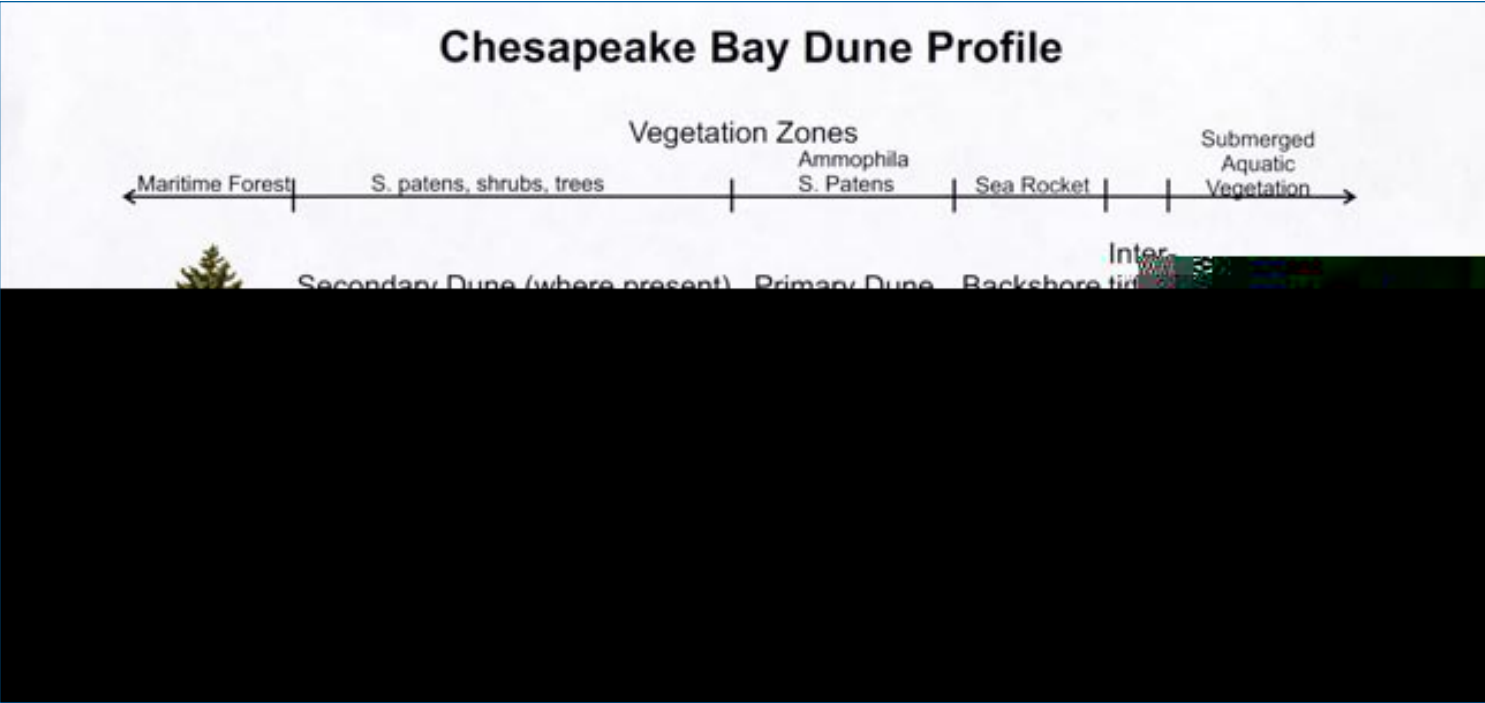
Jurisdictional coastal primary sand dunes are found in 8 localities around the Chesapeake Bay: the cities of Norfolk, Hampton, Virginia Beach, and the counties of Mathews, Lancaster, Northumberland, Northampton and Accomack. Almost 50 miles of potential dune areas have been identified in these 8 localities. This is only about 1% of the total Bay shore, making dunes a rare feature on Virginia's bay shoreline.

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## What is a Sand Dune?

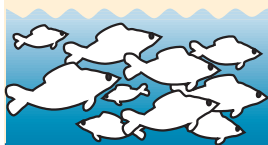
A coastal sand dune is an accumulation of sand supporting rooted vegetation that is formed by the interaction of wind and wave on the sandy material along the shore. Sand moved onto the beach during periods of relatively low wave energy is moved landward by the action of onshore winds. Vegetation along the dune line slows wind speed and traps wind-borne sand resulting in the accretion, or growth, of the dune. The size and location of a dune (a Bay dune generally varies in size from less than one hundred feet in length to a few thousand feet) is determined by the amount of sand available to the shoreline, the action of wind and waves moving the sand, and the ability of vegetation to trap the sand. Just as the intensity, direction and duration of winds and waves constantly change through the seasons, so, too, do coastal dunes remain in a state of flux. During high energy conditions, such as the northeast storms which frequent the Eastern Seaboard, dunes may be subject to attack by wind driven waves aided by storm surges. The dune protects the land behind it from the force of these waves and can be eroded away as the sand resettles on an offshore bar. Even during more normal or low energy weather conditions, dunes act as a reservoir for sand and can buffer inland areas from the effects of storm waves, acting as natural levees against coastal flooding.

Source: Virginia Institute of Marine Science



*Typical profile of a Chesapeake Bay dune system with measured parameters indicated.*





# COASTAL NETWORK IN ACTION

## Conflict Resolution and Waterway Use

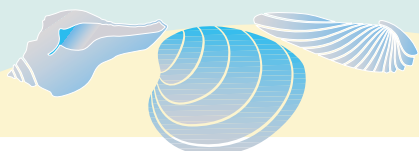
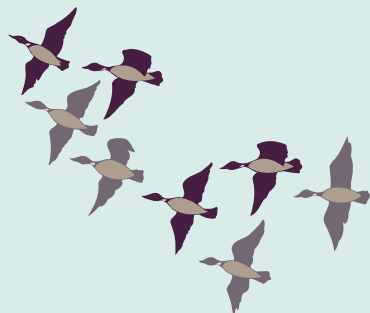
As Virginia's Coastal Program grows into its role as a forum for policy coordination, one of the issues that we have been working on through a variety of grant activities, is water use conflict resolution. On land we have many tools available for reducing conflict such as zoning, acquisition and land use ordinances. On the water, we don't have such things. So how can we be sure everyone (including non-humans) gets to use the water in the ways that they require or desire? Below are examples of three different ways in which the Coastal Program and its partners are helping to make this happen.

## Ecotour Guide Certification

Ecotourism can be a real boon to local rural economies and a way of creating an economic reason to protect natural areas or it can be the beginning of the end of a pristine site. For the past few years the Coastal Program has been fostering the development of an ecotour guide certification program. Our hope is that by providing training to guides, we can reduce use conflicts and inadvertent damage to animals, plants and natural areas that is often associated with tourism. At the same time we hope to provide certified ecotour guides with a marketing edge over their non-certified competitors.

In 1997 a draft curriculum was developed for the Eastern Shore and presented to ecotour businesses and others. Their response was favorable and they decided to form the Virginia EcoTourism Association as an entity that would help sponsor the certification program as well as provide a forum for ecotourism businesses, resource managers and academics. You can visit their website at [www.veta.net](http://www.veta.net).

Recently the Coastal Program awarded a grant to the Virginia Institute of Marine Science to expand the Eastern Shore curriculum to the entire coastal zone and to test run a certification course. VIMS is also investigating all of the legal ramifications of certification. The trial run of the course will be held at VIMS in January. For more information, please call Dr. Jim Perry or Molly Mitchell at 804 684-7338.



## Boaters and Wildlife

Dolphins skimming and jumping through Virginia's coastal waters, whales migrating just off shore, shorebirds darting across sandy beaches. Been tempted to motor your boat in for a closer look?

Better not to. Coming too close could put these animals at risk by disrupting their feeding or breeding behaviors. Injury and even death can occur when boat propellers collide with these animals.



*Photo by Susan Barco.*

The National Marine Fisheries Service (NMFS) is the federal agency responsible for monitoring the health and population status of marine mammals such as whales, dolphins, manatees and seals. NMFS carries out the tenets of the Federal Marine Mammal Protection Act of 1972. The Act states that it is illegal to hunt, intentionally kill, or harass marine mammals. Most of us would never hunt or kill marine mammals but many people harass animals unintentionally. Harassment is defined as any act or pursuit, torment or annoyance which has the potential to disturb marine mammals. NMFS defines disturbance as any act that causes wild animals to change their behavior (including migration, breathing, nursing, breeding or feeding). NMFS has developed very clear guidelines for boaters specifying how vessels should behave around dolphins and other marine mammals and what is strictly prohibited by the Marine Mammal Protection Act such as feeding, attempting to feed or swim with marine mammals.

Despite these guidelines, researchers at the Virginia Marine Science Museum (VMSM) knew that good information on how to behave around marine animals was not reaching the average boater. With a grant from the Virginia Coastal Program, VMSM has been working on a two-year project to incorporate a "Respect Wildlife" curriculum into basic boating and personal watercraft education classes in Virginia.

The first goal of the Respect Wildlife Project was to identify existing recreational watercraft education providers, then develop a Respect Wildlife curriculum for inclusion in boater education classes.

According to Jeff Decker, a Virginia Department of Game and Inland Fisheries Boating Safety Coordinator, the number of people taking boating safety classes is increasing each year, and these classes offer a great opportunity to reach the boaters sharing Virginia's waters with wildlife. Decker is working in cooperation with VMSM to develop the "Respect Wildlife" education course, and has been instrumental in incorporating

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# Water Use Map for the Northlanding River

The Hampton Roads region of Virginia is known for its network of canals, rivers, bays and oceanfront. These waterways are perhaps the region's greatest economic and recreational assets. As the Hampton Roads area has experienced growth, the number of users of these waterways has increased. The North Landing River, part of the Intercoastal Waterway, is one of several increasingly popular rivers in the region. Located in the cities of Virginia Beach and Chesapeake, the North Landing is also characterized by very narrow and winding stretches, making multiple demands on the river even more challenging. Recreational uses of the river include high performance power boating, cruising, personal watercraft, canoeing, kayaking, water skiing, sailing, fishing/shellfishing, beach swimming/sunbathing, and surfing. Commercial uses include fishing and fish processing and shipping activities. The river also includes valuable natural resources, such as wetlands, submerged aquatic vegetation, fish spawning areas, and wildlife habitat.

With funding from the Virginia Coastal Program, the Hampton Roads Planning District Commission (HRPDC) is developing a Waterway Use Conflict Memorandum of Agreement (MOA) for the North Landing River to enhance boater safety and enjoyment of the river, as well

as protect sensitive habitat areas in and along the river. The need for a MOA arose out of concerns voiced about increasing waterway use conflicts in the river during goal setting for the Southern Watershed Area Management Program (SWAMP). SWAMP, funded by the Coastal Program, is a special area management plan being developed to protect the natural resources, sensitive lands and water supplies of the Southern Watersheds of Virginia Beach and Chesapeake.

The MOA for the North Landing features a water use plan map to help segregate conflicting uses of the river and encourage intelligent operation of motorized watercraft. The map depicts recommended use areas for low impact recreation, general recreation and special use/high-speed recreation. (See map below) "The MOA map is similar in concept to a general land use plan map", explains Eric Walberg, a planner for the HRPDC.

Compliance with the recommended use areas by the boating public will be voluntary and no enforcement action will be associated with the MOA. Walberg goes on to explain that the voluntary approach taken in the MOA was most feasible. Research conducted by the HRPDC indicated that a regulatory approach to the use conflicts on the North Landing was not possible. Virginia lacks an existing enabling authority to regulate waterway activities for the sake of environmental protection, and there is a lack of available resources for enforcement. HRPDC also found a lack of public awareness of how incorrect boating practices can impact the river's natural environment.

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# Virginia's Clean Marina Program

– by Mark Slauter, DCR and Jeannie Lewis Butler, DEQ

There are approximately 1000 marinas and 250,000 boaters sharing the natural and economic benefits of Virginia's waterways. With each new boater and marina operator the potential impact to our waterways from nonpoint source pollution increases. Studies have shown, however, that an increasing number of recreational boaters support efforts to prevent and reduce pollutants from entering Virginia's waterways, and that higher occupancy rates exist at marinas where BMPs have been put into place.


In 1999, Virginia took steps toward the development of a Clean Marina Program, a voluntary initiative designed to educate and give technical support and special recognition to marinas that implement Best Management Practices (BMP's) that go above and beyond regulatory requirements.

The Clean Marina Program is, in part, the result of Virginia's response to 1990 amendments to the Coastal Zone Management Act. Section 6217 of the Act requires that state's with an approved coastal zone management program, develop an approved Coastal Nonpoint Source Pollution Control Program. In September 1995 Virginia submitted a document to EPA and NOAA describing how Virginia is able to meet and implement section 6217 of the 1990 amendments. Virginia received conditional approval of its Coastal NPS Program in February 1998. Conditional approval was granted due to NOAA and EPA's determination that Virginia did not sufficiently meet the management measures (federal guidelines) for "Technical Assistance", and "Marinas and Recreational Boating". The conditions specific to marinas are for runoff from hull maintenance facilities, disposal of fish waste, technical assistance for marina siting and design, and impact to the shoreline from boat operations.

The Virginia Coastal Program in cooperation with the Department of Conservation and Recreation created and now funds a Marina Technical Advisory Program at the Virginia Institute of Marine Science Sea Grant Office. A Marina Specialist has been hired and last fall an advisory committee was established which includes representatives from a diverse group of public, private and environmental organizations. This committee determined that a more comprehensive nonpoint source pollution management approach was warranted and propelled Virginia towards a comprehensive clean marina program.

Virginia joins neighbors Maryland and North Carolina in instituting this program. Educational and informational materials are being compiled for marina operators and recreational boaters. Virginia staff has worked closely with counterparts in Maryland's Department of Natural Resources to develop consistent state programs for boaters and marinas. Both states recognize that we share a responsibility as stewards of the special resources of the Chesapeake Bay and coastal waters. The Virginia



Clean Marina Program Guidebook will be available this fall. Look for our Clean Marina Program to be featured at regional boat shows this winter along with special workshops for marina operators over the winter months. Criteria for achieving Clean Marina designation are being finalized this fall and provided to marina operators. It is anticipated that Virginia's first Annual Clean Marina Awards will be given in the spring of 2001. 

*The Virginia Clean Marina Program is a component of Governor Gilmore's Virginia Naturally 2000 environmental education initiative.*



## Gala Held to Benefit Oysters



*The First Annual Oyster Gala Dinner Dance to benefit the Virginia Oyster Reef Heritage Foundation was held on November 11, 2000 at the Tides Inn, on the shore of the Rappahannock. Proceeds from the Gala have reached \$22,900 and are expected to exceed \$25,000. Dennis Treacy, Director of the Department of Environmental Quality (above left), and Cliff Schroeder, Vice-Chairman of the Foundation (above right), answered questions from gala attendees about the current status of oyster restoration efforts. Sarah Pugh, Senior Policy Analyst with the Virginia Department of Agriculture and Consumer Services (below left), and Gerald McCarthy, Director of the Virginia Environmental Endowment (below right), members of the Virginia Oyster Heritage Program Partnership, were among the attendees of the Gala. Thanks to Sarah for modeling the formal "Omar-of-the-Reef" costume designed for such events! (See page 15 for Omar's informal costume.)*



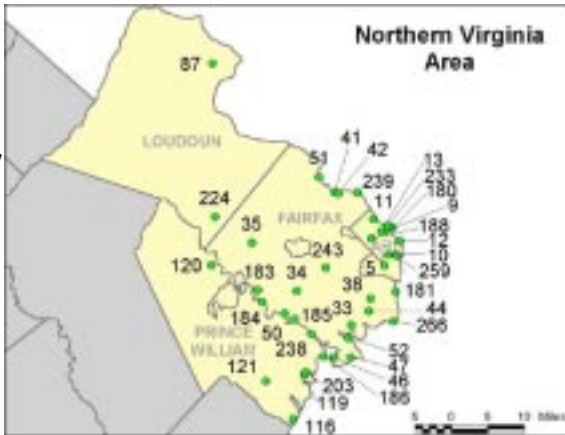


# Leading the Way to Virginia's Coastal Wildlife

The Commonwealth of Virginia offers a variety of coastal environments for the nature tourist's pleasure. Wildlife watchers enjoy a wonderful diversity of wildlife including migratory and resident birds, fish, reptiles, amphibians, mammals, and insects. A new plan is underway to capitalize on our unique natural resources and generate tourist dollars for Virginia's coastal communities.

The Virginia Coastal Birding and Wildlife Trail, initiated and coordinated by the Virginia Department of Game and Inland Fisheries, will use existing roadways to link natural areas and wildlife watching sites throughout Virginia's coastal zone. The Coastal Trail will traverse counties bisected by and east of Interstate 95 and extend along coastal Virginia

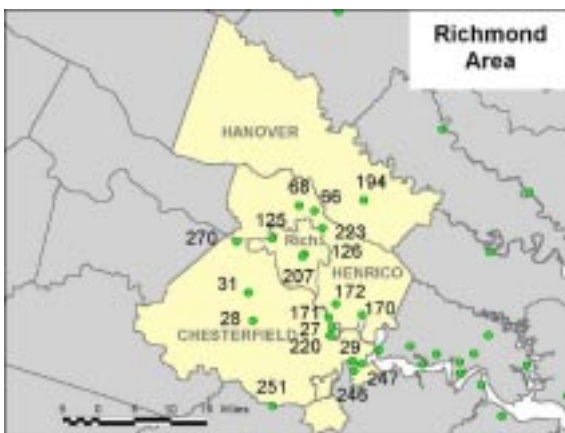
***Sites nominated for the Virginia Coastal Birding and Wildlife Trail in the Northern Virginia area.***



and the Eastern Shore. Working with other Mid-Atlantic States, the Coastal Trail could be a critical link in a larger Mid-Atlantic Coastal Birding Trail. The Coastal Trail is the first phase of a statewide Birding and Wildlife Trail planned by DGIF. Future phases of the statewide trail include a Mountain Trail and connecting Central Trails, possibly making Virginia the first state to complete a statewide nature trail.

Sites selected for the Coastal Trail may be well-known locations, such as National Wildlife Refuges and State Parks, or lesser-known sites such as Nature Conservancy and other privately owned lands, plantations, and county parks. DGIF hosted a series of public meetings during late 1999 to begin soliciting nominations for locally known birding sites. Site nomination packets and information were distributed to local communities, chambers of commerce, state and federal agencies, private

***Sites nominated for the Virginia Coastal Birding and Wildlife Trail in the Richmond area.***



## Did You Know These Birdwatching Facts?

Virginia has one of the highest diversities of birds in the eastern United States, with 424 resident, migratory and accidental bird species officially documented.

Nature tourism is the fastest growing segment of the tourism industry, and bird-watching is the fastest-growing recreational activity in the United States, even more than golf!

More than 2,211,000 individuals are spending nearly \$700 million annually on wildlife-watching recreation in Virginia, with the majority actively pursuing or casually observing birds during their experiences.

(1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation).

landowners, and local bird watchers. As of mid-July 2000, more than 200 sites had been nominated for the Coastal Trail! DGIF is now in the process of reviewing these nominated sites for inclusion on the Coastal Trail.

Funding for the Coastal Trail has been provided by the Virginia Coastal Program and the Virginia Department of Transportation. The Commonwealth Transportation Board approved a \$300,000 award for development of the trail as a transportation enhancement project under federal TEA-21 legislation. The Virginia Coastal Program awarded DGIF a \$7,200 grant last spring and a \$100,000 grant this October.

The spring grant enabled a team of DGIF staff, Virginia naturalists and journalists, tourism staff and a local chamber of commerce official to visit the Great Texas Birding Trail in June. DGIF will be producing a resource guide on birdwatching and festivals for Virginia localities. The

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***Dennis Treacy presented a check for \$100,000 to the Board of Game and Inland Fisheries on August 24 to support development of the Virginia Coastal Birding and Wildlife Trail. The \$100,000 is a grant from the Virginia Coastal Program. From left to right, Jay Carson Quarles, Chairman of the Board, Dennis Treacy, William Woodfin, Director of the Department of Game and Inland Fisheries, and John Paul Woodley, Secretary of Natural Resources. Photo by Lee Walker, DGIF.***

# NEWS AROUND THE ZONE

## 1 Arlington County Watershed Project

In 1998, Arlington County's Department of Environmental Services (DES) received a grant from the Virginia Coastal Program to develop a Watershed Management Plan for the County. This plan, developed in cooperation with the Department of Public Works (DPW), the Department of Parks, Recreation, and Community Resources (PRCR), and other County staff, analyzes existing County water resource and runoff management practices; establishes management goals for each of the County's subwatersheds based on existing stream conditions, current land use, and future land use changes; translates subwatershed goals into specific management recommendations; and identifies existing and needed funds for implementation. The Watershed Management Plan is intended to serve as a practical blueprint for local water resources management.

To begin the watershed planning process and identify watershed protection and restoration priorities, DES hired Environmental Systems Analysis, Inc. (ESA) to assess the condition of the County's streams and buffers using a modified version of the Rapid Stream Assessment Technique (RSAT). In May 1999, ESA and County staff surveyed 28.5 miles of natural stream channels in the County, evaluating conditions at a total of 236 stations in 16 subwatersheds. The stream inventory data suggest that most County subwatersheds are in 'fair' condition, with somewhat better stream conditions in the lower-density Palisades portion of the County as well as in the County's stream-valley parks.

The Watershed Management Plan addresses five program areas that provide a logical framework for watershed management: addressing the sources of stormwater runoff and other sources of urban pollutants from existing and new development, point sources, or illegal discharges; implementing and maintaining Best Management Practices (BMPs) to control stormwater pollution; maintaining stormwater infrastructure; managing, restoring, and monitoring streams and buffers; and implementing pollution prevention and watershed education initiatives. The plan will be an important tool for the County to comply with federal and state stormwater and water quality regulations, target County water resources expenditures, conduct watershed outreach and education, and address the cumulative effects of development on Arlington's streams.

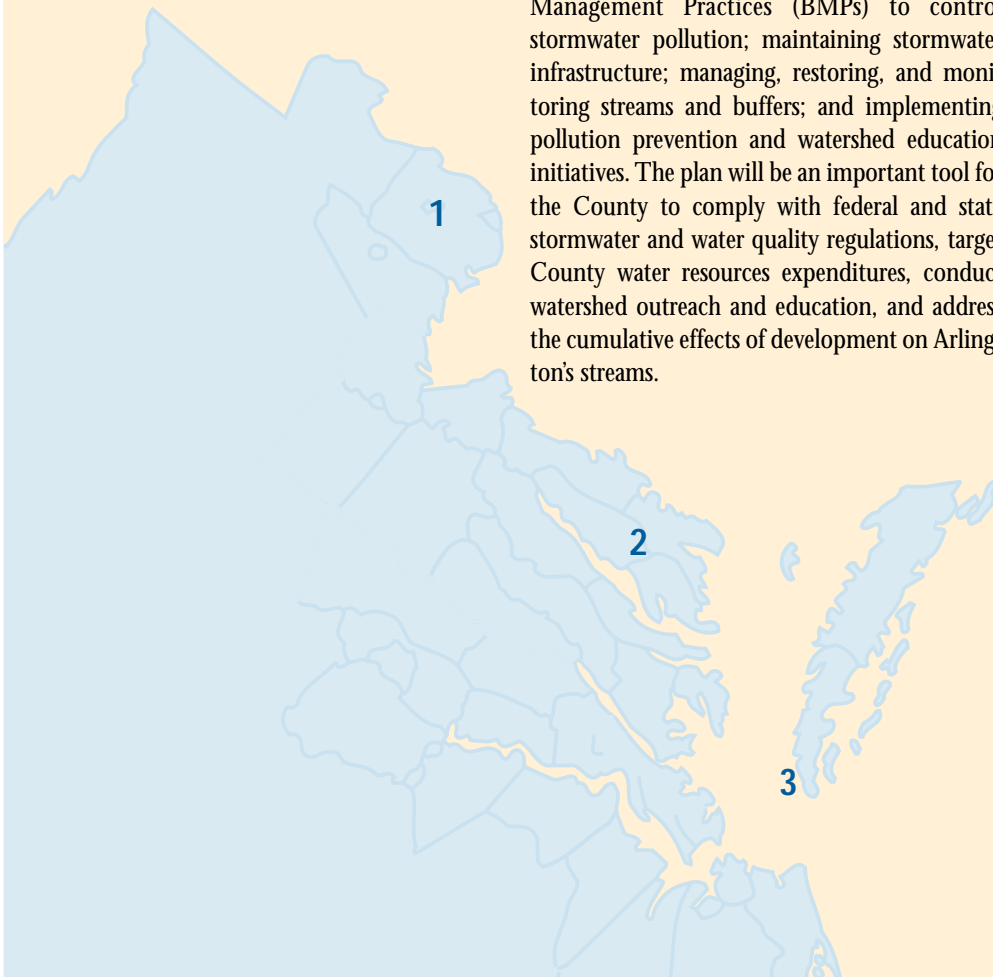
The Watershed Management Plan was released in 'draft final' form in May 2000 for public comment. Copies of the document are available electronically on the County website ([http://www.co.arlington.va.us/des/watershed\\_intro.htm](http://www.co.arlington.va.us/des/watershed_intro.htm)) A hard copy is also available upon request. (Hard copies of ESA's report will also be available) A work session with the County Board to consider the Watershed Management Plan for approval will be scheduled later this summer.



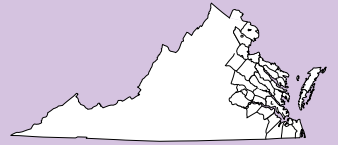
## 2 Dragon Run Watershed Protection

The Dragon Run Watershed Protection Project is a cooperative effort among Gloucester County, the Virginia Coastal Program at DEQ, Friends of Dragon Run, Inc. and The Virginia Outdoors Foundation. The Project's mission is to educate the watershed landowners about conservation easements and their benefits, identify and document the location of natural heritage resources in the watershed where protection efforts should be focused, and promote the use of conservation easements as a tool to protect these resources.

Dragon Run, a brackish water, tidal/non-tidal stream flows forty miles through the Virginia Middle Peninsula counties of Essex, King and Queen, Middlesex and Gloucester. The stream, along with the surrounding Dragon Run Cypress Swamp, forms an ecologically unique system of excellent water quality with numerous species of flora and fauna. The watershed is largely undeveloped and consists of 140.3 square miles of land area, of which 10% is wetlands. The Dragon Run watershed is recognized by the Smithsonian Institute as Virginia's most pristine waterbody draining to the Chesapeake Bay.







*On the Dragon Run Watershed.  
Photo by Teta Kain.*

Through a grant from the Virginia Coastal Resources Management Program in 1998, four educational workshops were held in each of the counties in the watershed: to promote the benefits of conservation easements; to describe what easements are and how they work; and, to provide information on how landowners can enter into a conservation easement to preserve and protect natural resources on their property, as well as gain valuable tax benefits in the process.

Funding from the Coastal Program also supported the first Natural Heritage survey of the Dragon Run swamp. This survey, which documented all existing flora and fauna, will be a valuable reference for monitoring changes to this sensitive ecosystem as the watershed is developed, and will serve as a tool for targeting those land areas where conservation easements will be most valuable.

Education is also key in this project. Project staff is producing a video for the public focusing on the natural resources and critical areas of the Dragon Run watershed and the role of conservation easements in protecting these areas. A conservation easement brochure has also been produced and mailed to all watershed landowners. The brochure will also be available to the public in various locations in all four watershed counties.

*The 161 acre wooded Parsons Tract,  
was added to Kiptopeke State Park.  
Photo courtesy of Grice Appraisal.*

### 3 Parsons Tract Acquisition

After several years of negotiating, hoping and scraping together pots of money, 161 acres of prime migratory songbird habitat have been annexed to Kiptopeke State Park on Virginia's Eastern Shore.

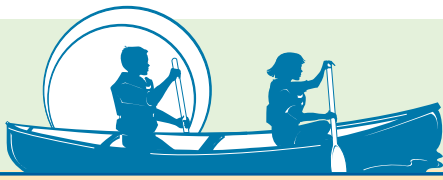
The land had been in the Parsons family since the 1930's. Mr. George Parsons had always wanted this beautiful spot on the Chesapeake Bay protected, but he had never put his wishes in writing. When his widow, Chrlye Parsons was approached by timber companies and developers with their offers of quick cash, birders and con-

servationists were gravely concerned. Although it seemed certain there would be sufficient funds from the Department of Conservation and Recreation and funds from the Coastal Program at DEQ that were being granted to DCR and the Accomack-Northampton Planning District Commission, approvals for those expenditures would take precious time. Fortunately the Trust for Public Land was able to step in and purchase the parcel on behalf of the state and hold it until all the required paperwork was complete.

The land is now owned by DCR and they have been working on a Master Plan for the annexed site. For more information on the Master Plan, please call DCR at 804/ 786-1119.







# VISIT THESE PUBLIC ACCESS SITES

## CBNERRVA Gets Creative with Riparian Buffers



***Lance-leaved Coreopsis, one of the many native plants to discover in the new Virginia Native Plant Arboretum. Photo by April Bahen, NERRS.***

York River State Park in Croaker, Virginia is the site of a thriving new venture into native species and riparian buffer restoration and education - the Virginia Native Plant Arboretum. Once a graded, compacted hillside, the Arboretum now gives visitors a glimpse of some of the communities and habitats found naturally along the coastal plain of Virginia. Butterfly, songbird and wetland habitats, and forested upland and natural succession communities greet those who wander the paths through the Arboretum.

Close to 70 species of native plants – including edible species – were used to create the Arboretum. The Arboretum, completed in April 1999, was designed and planted by the Chesapeake Bay National Estuarine Research Reserve in Virginia with the assistance of Denise Greene of Sas-safrass Farm, a Landscape Architect, who was referred to CBNERRVA by the John Clayton Chapter of the Virginia Native Plant Society. It is one of over 10 riparian buffer restoration sites designed and planted by Dr.



***Tom Cervenak, York River State Park Manager.***  
***Photo by Virginia Witmer.***

William Reay at CBNERRVA through funding from the Virginia Coastal Program.

The Arboretum project has blossomed in the past year to include workshops and walking tours for homeowners, coastal decision-makers and Master Gardeners from James City County/Williamsburg, Newport News, York County and Gloucester County. Topics of the workshops included the functions of riparian buffers and the use of native species in landscaping. Over 20 workshop participants have volunteered their time to help maintain the Arboretum.

A variety of opportunities have sprung forth as a direct result of the Arboretum project. CBNERRVA staff has been invited to speak and at various events around the region about riparian buffer restoration, nutri-




***This hillside contains a community of host and nectar plants for native species of Virginia butterflies. Photo by April Bahen, NERRS.***

ent reduction and landscaping with native plants. This includes a presentation and display at the 1999 Williamsburg Parade of Homes Home & Garden Show. CBNERRVA staff assisted Kingsmill Golf Course in Williamsburg in designing and implementing a restored riparian buffer area on the signature 14th hole. CBNERRVA is also working with Kingsmill Golf Course to plan a number of workshops focusing on riparian buffer restoration, nutrient reduction

and landscaping with natives. The workshops will be held for homeowners within Kingsmill On-The-James and other regional golf course owners.

The Arboretum overlooks the marshes of Taskinas Creek, which is part of Virginia's National Estuarine Research Reserve System. The Arboretum is handicapped accessible and is connected to a series of boardwalks and overlooks at York River State Park, which offer visitors spectacular views of the marsh.

For more information about the Arboretum, please call April Bahen, Assistant Education Coordinator, CBNERRVA, at (804) 684-7526. For directions to York River State Park, call (757) 566-3036. 

## Chesapeake Bay Dune Systems...

*Continued from page 3*

However, the exact extent of these existing dune systems is unknown, as is their relationship to associated secondary dunes. The current geographic extent and status of primary and secondary dunes is based on Virginia Institute of Marine Science (VIMS) Shoreline Situation Reports completed in the mid-1970's.

"All dunes in the Chesapeake Bay Estuarine System by virtue of their changing and mobile nature are moving targets for coastal zone management. Unlike ocean dune fields that are relatively continuous features exposed to the open ocean, the dunes of the Chesapeake form across a temporal and spatial geomorphic matrix driven by sand volume, varying wave climate and shoreline geology," explains Scott Hardaway, a geologist with the Virginia Institute of Marine Science (VIMS). In October 1998, at the request of and with funding from the Virginia Coastal Program, and in cooperation with the Virginia Marine Resources Commission, VIMS began a study entitled "Chesapeake Bay Dune Systems: Evolution and Status". This study has the following objectives:

- 1) Map the location and lengths of primary dune systems in the Virginia portion of the Chesapeake Bay, both existing jurisdictional and non-jurisdictional dune systems (the ocean coastal dune system is not part of this study); the first phase of the project will locate, classify, and enumerate the existing jurisdictional dunes and dune fields within the eight localities listed in the Coastal Primary Sand Dune Act.
- 2) Identify changes to the dune systems through time and, if possible, the factors that have influenced their evolution;
- 3) Develop a classification of dune system types based on influencing factors, e.g. natural dunes, man influenced dunes and man-made dunes; and,
- 4) Investigate the function and values of secondary dunes. In other words, study how primary and secondary dunes may be related and possibly interdependent on each other.


The study will also address factors that impact dune systems. Man's

influence is pervasive, explains Hardaway. For instance, the dune fields on either side of Smith Point in Northumberland County have evolved in part as a result of channel jetty construction at the Little Wicomico River. Primary dunes west of Ocean Park in the City of Virginia Beach have evolved due to beach nourishment by dredge material from Lynnhaven Inlet and subsequent westward littoral transport. The large dune ridge at the distal end of Willoughby Spit was built as part of a large 1985 beach nourishment project. Breakwater installation in that area has supported the creation of a wide beach and primary dune features seaward of the original dune construction. "These are but a few situations that illustrate the variable nature of man's intentional or inadvertent influence. Each dune system has a connection to the beach and shore zone processes unique to its setting but similar to each other as part of the coastal environment," explains Hardaway.

The historical evolution of selected dune systems is being ascertained through use of historical vertical aerial imagery and ground survey data. VIMS Shoreline Studies aerial archives contain photo sets dating back to 1937. The U.S. Army Corps of Engineers also has aerial imagery available and aerial imagery taken by the VIMS SAV program is also being reviewed.

The alongshore extent of existing dune systems is determined by aerial video. Once the dune systems have been delineated from aerial imagery analysis, field checks are made to assess vegetation communities and develop dune profiles. This information about the dune system is necessary to characterize primary and secondary dune features.

A draft Chesapeake Bay dune classification has been developed. There are 3 main categories that a dune or dune system is first placed: Natural, Man Influenced, or Man Made. These three categories reflect how the state of the dune is most impacted. The classification system is based on factors that are unique to certain dune systems and has a basis in dune field evolution, vegetative zones, lateral and vertical extent of primary and secondary dune features as well as anthropogenic impacts. Relationships of primary to secondary dune features may not always exist and therefore must be understood before secondary dunes can be properly assessed in terms of habitat and flood protection value.

"We hope to outline how the dune systems came to be, provide insight into what factors have and are operating on this important resource and provide the scientific link between the primary and secondary dune features", states Hardaway. "Determining the relationship between primary and secondary dunes is key to any future management initiatives." 

***Secondary dune system located on Virginia's Eastern Shore in Kiptopeke State Park (the Parsons Tract, see page 9). Photo courtesy of Virginia Department of Conservation and Recreation.***





## Boaters and Wildlife...

*Continued from page 4*

information relating to marine animals, and marine animal and boater interaction, into a series of publications and education materials produced by DGIF, including a Watercraft Owners Guide, which is widely distributed in coastal Virginia, and the Virginia Boating Basics Manual.

"We want the boating safety course instructors to have a sense of ownership in the project and understand the importance of respecting wildlife in Virginia's waters. The training and curriculum materials we provide to these instructors is designed to do that, as well as to help increase the public's awareness of protected marine species in Virginia. We want to encourage the entire boating public to respect wildlife," explains Susan Barco. Barco is the VMSM researcher heading up the "Respect Wildlife" project, and a member of Virginia's Marine Mammal and Sea Turtle Stranding Network.

"Direct contact is one of the best avenues to inform boaters about responsibilities they have when operating a boat near marine mammals. Instructors and students alike enthusiastically accepted the outstanding reference material that VMSM provided for the Watercraft Owners Guide and the Virginia Boating courses," states Decker.

The material included in the boat and personal watercraft education curriculum is three-fold. First, it introduces students to vessel-wildlife problems, and makes them aware of the effect their vessels may have on different animal groups. The next step is to introduce students to different animal groups found in Virginia including migratory birds, bottlenose dolphins, sea turtles and other marine mammals. Finally, the curriculum recommends guidelines for vessel operation around wildlife. (See sidebar.)

"In addition to developing this new curriculum, we will conduct a study of the interactions between bottlenose dolphins and recreational vessels in the near shore waters of Virginia Beach to better understand the behavior of both dolphins and vessels," states Barco. "This is our first

### Vessel Guidelines for Wildlife

- Steer clear of animals! Do not approach nesting or resting birds, sea turtles or dolphins closer than 50 yards (150 feet).
- If you have to move close to animals because of channel markers, shallow water or traffic, maintain a set speed and course.
- Never surround animals with vessels or circle animals or nests with a moving vessel.
- Avoid sensitive habitats such as the shallow water around marshes and submerged vegetation.
- If you wish to observe animals, approach them slowly from the side (not head on or from behind as if to chase them). Idle slowly or remain in neutral and choose a set course.
- If the animal(s) leave the area, do not chase them.
- Limit your observation time to 15 minutes or less.

Always remember that wild animals are trying to survive in nature. You are a visitor to their habitat and should respect their space and their need to survive without being constantly disturbed.

effort at helping the Coastal Program develop conservation and management policy, and we are excited about being able to use our expertise to help boaters understand the animals that live and swim along our coast."

If you have any questions or comment about the project, contact Sue Barco by e-mail at [ocrab@erols.com](mailto:ocrab@erols.com). Also, please visit the National Marine Fisheries Service Office of Protected Species website for information about vessels and protected species at [http://www.nmfs.gov/prot\\_res/main/new.html](http://www.nmfs.gov/prot_res/main/new.html) (click on Viewing Protected Marine Species in the Wild). For boating course information, go to the VDGF web site at <http://www.dgif.state.va.us> or call (804) 367-1125. 🐬

## Governor Gilmore's Forum on Environmental Education

On December 7-8, 2000 the Virginia Environmental Education Advisory Committee, recently appointed by Governor Jim Gilmore, will hold a planning forum to begin crafting a master plan for Environmental Education in Virginia. Virginia needs your input in this important process.

The forum will be held in Richmond at Virginia Commonwealth University (VCU) and will be broadcast via the Internet to provide widespread public participation.

If you would like to have a voice in forging the future of EE, either in person or via the Internet, please register for the forum at [www.vanaturally.com](http://www.vanaturally.com). An agenda will be posted soon. We look forward to hearing your ideas!

The forum is coordinated by the Virginia Resource Use Education Council with support from the Virginia Environmental Endowment, the Department of Environmental Quality and its Coastal Program and the Center for Environmental Studies at VCU.

For information about the committee, the forum or about becoming a Virginia Naturally 2000 Partner, please log onto [www.vanaturally.com](http://www.vanaturally.com). 🐬



## Water Use Map for Northlanding ...

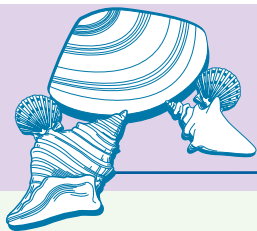
*Continued from page 5*

The HRPDC is coordinating development of the MOA with a committee including representatives from the Cities of Chesapeake and Virginia Beach, Army Corps of Engineers, Coast Guard, Fish and Wildlife Service, and Virginia Departments of Conservation and Recreation, Environmental Quality, and Game and Inland Fisheries. It is expected that all members of the committee will be cosignatories to the final MOA.

A draft MOA was presented to the general public and stakeholders at a public hearing in April, and a revised MOA has been forwarded to the development committee for their final review. A signing ceremony will be scheduled when the review of the MOA is complete.

For more information on the Waterway Use MOA, please contact Eric Walberg at (757) 420-8300.

Before a MOA was developed, HRPDC conducted a study to determine what approach could be taken to address waterway conflict issues on the river, as well as on other waterways in the region. The details of this study are contained in Volume One of Managing Multiple Recreational Use Conflicts in the Waters of Hampton Roads. Volume Two contains the results of applying the findings of Volume One to develop pilot waterway management plans for the Lynnhaven River in the City of Virginia Beach and the Hampton River in the City of Hampton. 🐬



# COASTAL CLIPS

## Bay Act Incorporated into Virginia Coastal Program

Effective May 29, 2000, the Chesapeake Bay Preservation Act and Regulations are automatically incorporated into the Virginia Coastal Resources Management Program as one of the Program's enforceable policies. This was the first automatic incorporation granted to a coastal program under the National Office of Ocean and Coastal Resource Management at the National Oceanic and Atmospheric Administration. Federal Consistency provisions pursuant to the Coastal Zone Management Act are applicable.

NOAA issued guidance on May 12, 1998 entitled, Final Guidance on Incorporating Coastal Nonpoint Pollution Control Programs into State and Territory Coastal Management Programs. This guidance outlines the process for incorporating enforceable policies fully approvable under the state's Coastal Nonpoint Source Program. The Commonwealth and NOAA have identified the elements of the Chesapeake Bay Preservation Act and Regulations as enforceable policies being added to the Virginia Coastal Program.

Federal agencies were notified directly by mail on May 26, 2000. Please contact Ellie Irons for further information on federal consistency or Laura McKay for questions about the Virginia Coastal Program at the VA Dept. of Environmental Quality, (804) 698-4000. Questions regarding the Chesapeake Bay Preservation Act may be directed to Michael Clower, Chesapeake Bay Local Assistance Department, (804) 225-3440.

## New Coastal Staff!!

### Susan Watson

Susan Watson previously worked for Henrico County Recreation and Parks at Three Lakes Nature Center and Aquarium as a Nature Center Assistant. Her background includes a Bachelor of Science from Virginia Tech in Forestry and Wildlife Resources, with an option in Wildlife Science. She also worked for Chesterfield County at Rockwood Nature Center as an Associate Naturalist.

As the new Coastal Specialist at DEQ, she assists other Coastal Program staff by helping track and review reports and products from grant projects, assisting with outreach materials and events, maintaining and updating databases, and assisting with general duties.

### Anne Newsom

The Coastal Program has recently hired Anne Newsom as a Coastal Scientist. She joins us from the Virginia Institute of Marine Science, Wetlands Program, where she worked as a wetland scientist for two years. Prior to her work at VIMS, Anne graduated from the Nicolas School of the Environment at Duke University with a Master of Environmental Management and received her Bachelor of Science degree at the College of William and Mary. She taught high school science for three years in York County before attending Duke. Anne's interests include land use planning, and the role of geographic information systems (GIS) in resource management.

## National Dialogues on Coastal Stewardship

What will America's coasts be like in the year 2025? Over 7000 participated in an Internet Town Meeting on America's Coastal Future - a national web-based dialogue on coastal stewardship facilitated by NOAA's National Ocean Service from July 1999 through June 2000. The survey is complete and the results are in!

The Internet Town Meeting was conducted as part of a larger effort called Coastal Futures 2025 by the National Dialogue Partners, a national partnership of government agencies, non-governmental organizations and associations who together have developed a comprehensive set of vision statements concerning America's coastal future. The Internet



Town Meeting reached a diverse number of individuals and groups with common interests in the future of America's coasts, and stimulated participation in online discussions about the vision of our nation's coasts over the next 25 years if trends in growth, water quality and fishery resources continued.

Results of the Internet Town Meeting can be found on the Coastal Futures 2025 website at <http://coast2025.nos.noaa.gov/>. Opinions and comments were posted on the following topics: Population, Community Heritage, Coastal Hazards, Environmental Quality, Recreation and Tourism, Commerce, Energy and Minerals, Food Supply, Public Awareness, Technology and Responding to Change.





# COASTAL CONTRIBUTIONS

**The following publications were funded by the Virginia Coastal Program:**

***Gloucester County: Natural Resource Map and Assistance Guide*** – Gloucester County, February 1999:

This convenient and easy-to-carry folded map and guide is full of useful information and free to anyone interested. The map clearly marks natural resource related facilities, such as, recycling centers, regional environmental service offices, and marinas. The guide includes information on Gloucester County's strategies for protection of the Chesapeake Bay watershed. It also includes many useful conservation facts and contact information for environmental groups and services. To obtain a copy, please call Christine Breddy at (804) 693-4040.



***BasinSim 1.0 for Windows (CD-ROM and User's Guide)*** – Virginia Institute of Marine Science, June 2000:

VIMS developed a watershed simulation package called BasinSim 1.0 for Windows. This desktop application predicts sediment and nutrient loads for small to medium-sized watersheds. The simulation system will be used by resource managers, researchers, educators, and students. BasinSim 1.0 is available free to download through the Internet. Please contact Richard Wetzel at (804) 684-7381.

***Better Site Design: An Informational Brochure for Virginia Communities Implementing the Chesapeake Bay Preservation Act and Better Site Design: An Assessment of Better Site Design Principles for Communities Implementing Virginia's Chesapeake Bay Preservation Act*** – Chesapeake Bay Local Assistance Department, April 2000:

Both publications should assist Tidewater localities in implementing the three general performance criteria contained in the Chesapeake Bay Preservation Area Designation and

Management Regulations. CBLAD hosted a workshop in Richmond on February 29, 2000, for local government officials who implement provisions of the Act. Contact Shepard Moon for more information or a copy of these publications at (804) 225-3440.

***Virginia Stormwater Management Handbook, 1st Edition, 1999 - Vols. I & II*** – Department of Conservation and Recreation, Division of Soil and Water, April 2000:

Many local and state government agencies purchased the handbook to use to regulate BMP design, construction, maintenance, and inspections. Response from these agencies has been extremely positive. Contact Joe Battiatia for more information at (804) 371-7492.

***Wildlife Habitat Guide*** – The Elizabeth River Project, April 2000:

This guide is designed for a broad audience of property owners, resource managers, and anyone else interested in helping benefit the Elizabeth River Project. This guide is a reference for enhancing many types of regional wildlife habitats. For a copy, please contact the Elizabeth River Project by calling (757) 625-3648 or by emailing [erp@norfolk.infi.net](mailto:erp@norfolk.infi.net).

***Increasing the probability of success in the construction of marshes in coastal Virginia*** – Virginia Institute of Marine Science, Center for Coastal Resources Management, May 2000:

This report compares habitat functions of a constructed tidal marsh with those of two adjacent natural tidal marshes, and compares similar data collected from these marshes seven years prior. Data supports addition of an organic soil amendment at the construction phase and the planting of a mature saltbush community in an artificial marsh in order for it to function like a natural marsh. Submission of this report is expected for review in a peer-review scientific journal. Also, it will be included in a Virginia Institute of Marine Science Technical Report that will be produced and distributed to approximately 2,000 resource managers, regulators, legislators and private sector consultants who are included on the publication mailing list of the Center for Coastal Resources Management. To ask about this report, contact the Center for Coastal Resources Management (VIMS) at (804) 684-7380.

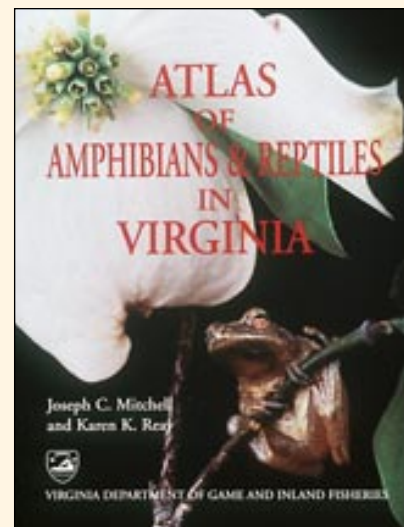
***Riparian Vegetative Buffer System: Market Product Analysis for Private Landowners in the Coastal Plain of Virginia and Riparian Vegetative Buffer Demonstration Plantings in Virginia's Coastal Plain*** – Virginia Institute of Marine Science, December 1999:

"The Market Product Analysis for Private Landowners in the Coastal Plain of Virginia" discusses market or product benefits that can be attained from riparian vegetative buffers created with native plants. "The Riparian Vegetative Buffer Demonstration Plantings in Virginia's Coastal Plain" documents profiles of the demonstration planting sites. For copies of these reports, contact Dr. William Reay by calling (804) 684-7119 or emailing [wreay@vims.edu](mailto:wreay@vims.edu).

***Other Coastal-Related Publications Now (or Soon) Available:***

***Atlas of Amphibians and Reptiles of Virginia*** – Virginia Department of Game and Inland Fisheries:

This is a valuable guide for surveys and inventories, conservation and management, monitoring, and education that documents point location distribution maps for all species of herptofauna throughout Virginia. To order a copy, send a check for \$7.50 per copy, payable to Treasurer of Virginia to: David Kopf, Wildlife Diversity Division, Virginia Department of Game and Inland Fisheries, 4010 W. Broad St., Richmond, VA 23230-1104, Phone (804) 367-6913 or use the order form at <http://www.dgif.state.va.us/herpatlas/index.html>. Questions about the Atlas should be directed to Karen Reay at the same address and telephone number.





***Paying for Sustainable Environmental Systems: A Guidebook of Financial Tools*** – U. S. Environmental Protection Agency, Environmental Financial Advisory Board:

This “Guidebook” is intended as a generalized reference for ways and means that are useful in paying for sustainable environmental systems. It outlines approximately 340 financial tools. The Environmental Financial Advisory Board is

a Federal Advisory Committee Act body chartered to advise the USEPA Administrator on financial issues of environmental facilities, services, and activities. Its members include independent experts from all levels of government, financial and legal communities, business, and national associations. For information, contact Timothy McProuty by calling (202) 564-4996 or by e-mailing [mcprouty.timothy@epa.gov](mailto:mcprouty.timothy@epa.gov).

### ***2001 Virginia Outdoors Plan Underway; Comments Needed***

Production of the 2001 Virginia Outdoors Plan (2001 VOP) is underway. The VOP is the Commonwealth's plan for the acquisition, development and management of its significant outdoor recreation and open space resources. The plan is compiled by the Virginia Department of Conservation and Recreation (DCR) and was last updated in 1996.

The VOP includes an inventory of public and private recreation areas and facilities, and an open space and recreation space survey. DCR has completed an inventory of more than 6,000 sites for the 2001 VOP, and has also conducted a public survey of outdoor activities, open space issues, and the Virginia State Park system.

Public input is key to the development of a successful plan. The 1996 VOP has been widely distributed to each county, city and many towns for review. Public meetings were held across the state in October. DCR staff solicited comments and recommendations for the 2001 VOP, and invited opinion about how to make the 2001 VOP a more effective plan. Written comments can also be made to: Virginia Department of Conservation and Recreation, 203 Governor Street, Suite 326, Richmond, VA 23219, Attn: R. G. Gibbons, or by e-mail to: [VOP@dcr.state.va.us](mailto:VOP@dcr.state.va.us). Copies of the 1996 VOP are also available on DCR's website. A draft 2001 VOP will be available for public review in late winter or early spring, 2001. 🐟



***“Omar-of-the-Reef” made an appearance at the 4th Annual Green Sea Festival in Virginia Beach this past October to help spread the word for fellow oysters and oyster reef restoration. (Thanks, Jeannie!)***

## **Leading the Way to Wildlife**

***Continued from page 7***

guide will include interviews with key participants and materials collected from the Texas communities on the trail. In addition the spring grant helped make possible a trip to Virginia by New England, Texas and other nature journalists so that they could visit “hot” birding sites in Virginia and the Eastern Shore Birding Festival. As a result we expect articles to appear in *Living Bird*, *Chesapeake Living* and others publications which will highlight Virginia's great birding locations and plans for our Coastal Birding and Wildlife Trail.

The \$100,000 grant from the Coastal Program will go toward development of the trail itself. An annotated map will be produced and road signs marking the trail will be designed and fabricated.

DGIF staff will be busy over the coming months delineating the routes of the Coastal Trail as sites nominated for the trail are approved. Sites will also be grouped into organized loops off the main driving Trail. Loops will be designed to accommodate a three-day trip, but visitors may choose the length of time they wish to spend at any particular site, and on the Trail. Maps will guide the visitor from one site to the next with descriptions of sites and their wildlife viewing opportunities. The maps will also offer information on services available to local visitors in the communities closest to each loop.

Enhancements to sites on the Coastal Trail will be encouraged, including roadside pull-offs, boardwalks, wetland viewing platforms, and interpretive literature or signage explaining the variety of wildlife to be found, their habitat and their conservation. There will be many opportunities to link educational programs or projects with the Trail, such as workshops and field visits.

The site selection and planning process for the Coastal Trail has already created new partnerships among government agencies, local industries, land managers, community leaders, bird watchers, and conservation organizations. When complete, the Coastal Trail is expected to benefit everyone involved. As a growing number of nature tourists spend their time and money along the Birding Trail, communities will want to invest in and conserve the natural resources that are attracting tourism dollars. Site owners and managers will benefit from being part of a cooperative network of sites. Virginia residents and out-of-town guests will enjoy expanded opportunities for wildlife viewing, complete with the detailed maps, guides, and regional tourism contact information. “In less than a year, we have spoken with more than 250 organizations and governmental bodies representing a wide range of interests in the coastal area,” notes David Whitehurst, Director of DGIF's Wildlife Diversity Division which will oversee the Trail's development. “The partnerships that have already developed are tremendous.”

For more information about the Coastal Birding and Wildlife Trail, please visit the DGIF Website, call 540-367-4335, send e-mail to [birdingtrail@dgif.state.va.us](mailto:birdingtrail@dgif.state.va.us) or write to David Whitehurst, Director, Wildlife Diversity Division, P.O. Box 11104, Richmond VA 23230. The DGIF Website (<http://www.dgif.state.va.us>) includes information about how to write letters in support of the Coastal Trail, how to nominate a site for the Coastal Trail or the future statewide trail, and a list of sites already nominated (grouped by county). Just follow the link for wildlife. You can also find information about partnerships, economic development, and the benefits of promoting nature tourism in your community. 🐟

*Thanks to Lisa Sausville and Liesa Thomas, DGIF for contributions to this article. Adapted in part from DGIF Virginia Birding and Wildlife Trail fact sheets.*

# Coastal Calendar

If you would like to add an event or deadline to the Coastal Program News or web site calendar, please call Virginia Witmer, Newsletter Editor at (804)698-4320 or e-mail: [vgwitmer@deq.state.va.us](mailto:vgwitmer@deq.state.va.us)

**Nov. 29 – Dec. 1** 7th Annual Virginia Watershed Management Conference - <http://www.drc.state.va.us>.

**Dec. 7 & 8** Governor's Forum on Environmental Education VCU - <http://www.vruec.org/forum.htm>

**Feb. 5 – 7, 2001** Virginia Oyster Heritage Program Display – Virginia General Assembly - <http://deq.state.va.us/oysters/>

**June 6 – 8, 2001** Virginia's Sustainable Future Conference – Richmond, VA - <http://www.deq.state.va.us/vsf2/>

## Virginia Coastal Needs Assessment and Strategy Process

**Jan. 16, 2001** Assessment and Strategy available for public comment – please watch Coastal Program Website for more details (the document will be available on-line.)

**Jan. 30, 2001** Public Meeting

**Feb. 15, 2001** Public comment period ends

**March 1, 2001** Assessment and Strategy due to NOAA



*The Oyster Shuckers Softball Team – The team, which promoted the Virginia Oyster Heritage Program this spring and summer, was made up of students, faculty and staff from the Virginia Institute of Marine Science, as well as Middle Peninsula Planning District Commission staff, who organized the team. The enthusiastic team players were well prepared to answer questions from softball fans and fellow league softball teams about oysters and oysters reefs! They also hope to be as successful in their game next year as the newly constructed reefs in the Rappahannock River and along the lower seashore of Virginia's Eastern Shore! Photo Courtesy of the Middle Peninsula Planning District Commission.*

## COASTAL PROGRAM NEWS

### Virginia Coastal Resources Management Program

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Coastal Specialist

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